

ABSTRACT

Nada, Cita Khoirun. 2014. **Apolipoprotein E Gene Polymorphism in Patients with Acute Myocardial Infarction (AMI) at dr. Saiful Anwar Hospital Malang.** Thesis, Biology Department, Science and Technology Faculty, State Islamic University of Maulana Malik Ibrahim Malang. 1st Supervisor: Dr. Hj. Ulfah Utami, M. Si. 2nd Supervisor: Dr. H. Munirul Abidin, MA.

Key word : *Acute Myocardial Infarction, Polymorphism, Apopliprotein E*

Apolipoprotein E (Apo E) has an important role in the metabolism of lipids in plasma. Lipid levels are strongly influenced by the Apo E gene polymorphisms. Apo E consists of three kinds of alleles, i.e. $\epsilon 2$, $\epsilon 3$ and $\epsilon 4$, which form 6 genotip E2/E2, E3/E3, E4/E4, E4/E4, E2/E3 and E2/E3. So Apo E gene polymorphisms have relation with atherosclerosis. Atherosclerosis can lead to acute myocardial necrosis resulting in Acute Myocardial Infarction. Acute Myocardial Infarction (AMI) is one of the leading causes of death in Indonesia. This research aims to find out genetic variation (polymorphism) of the Apo E gene in patients with AMI at dr. Saiful Anwar Hospital Malang.

Blood samples taken from 10 patients of AMI and selected by the criteria of inclusion and exclusion. DNA samples extracted from white blood cells (leukocytes) by using Geneaid DNA Ekstraktion Kit. Apo E gene polymorphism identifiicated using Amplification Refractory Mutation System (ARMS) method with a single PCR.

The results of ARMS-PCR showed there were Apo E gene polymorphisms in patients AMI at dr. Saiful Anwar Hospital Malang. Genotype Apo E that obtained is E4/E3 and E4/2, with total 4 patient of $\epsilon 2$ allele carriers, 6 person of $\epsilon 3$ allele carriers and 10 AMI patient of $\epsilon 4$ allele carriers.